



## MEMORANDUM

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**Date:** October 31, 2024 **GTS:** 231211.  
**To:** David Evans and Associates, Inc.  
**From:** GTS  
**Subject:** **Vehicle Miles Traveled (VMT) Analysis – Adelanto Industrial Park, Adelanto, CA**

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This memorandum describes the development of vehicle miles traveled (VMT) analysis for the proposed Adelanto Industrial Park (project) in the City of Adelanto (City), CA. The project site is located southeast of the intersection of Adelanto Road and Air Expressway Blvd. in the City of Adelanto. The area around the site is currently undeveloped. The project consists of seven warehouse buildings totaling 8,599,962 square feet of floor area. The VMT analysis evaluated the project using the 2019 and 2050 model years obtained from the San Bernardino County Transportation Authority (SBCTA).

### Background

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT).

### Methodology

The project VMT analysis was conducted using the City of Adelanto's "*Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS)*" (Guidelines), dated July 2020. The guidelines included project screening criteria which was reviewed for the project evaluation. This project was compared with the screening criteria established in the guidelines to check if the project can be screened out of a detailed VMT analysis. Evaluation of the screening criteria is described below:

- Transit Priority Area (TPA) Screening: The project is not within TPA and therefore, the project doesn't meet this screening criteria.
- Low VMT Area Screening: The project is not located in a low VMT area and therefore, the project doesn't meet this screening criteria.
- Project Type Screening: Projects that generate less than 110 daily vehicle trips can be screened out of VMT analysis based on this criterion. The project is estimated to generate more than 110 daily trips and therefore doesn't meet the daily trip threshold for screening. The project doesn't meet this screening criteria.

As described above, the project doesn't meet any of the screening criteria identified in the guidelines. Hence, a full VMT analysis was conducted using the most recent version of San Bernardino County

Transportation Analysis Model (SBTAM) – SBTAM Plus (SBTAM 3.2) as recommended in the City's guidelines.

SBTAM Plus model is a socioeconomic data based model and so the project land use was converted into model employment categories using conversion factors from SCAG's "Employment Density Study Summary Report – dated October 31, 2001". The land use conversion yielded a total of 7,197 employees as shown in Table 1 which was used as input for the model runs.

Table 1: Adelanto Industrial Park – Employment Estimates

| Land Use Type | Square Footage (SF) | SF/Employee * | Total Employees |
|---------------|---------------------|---------------|-----------------|
| Warehouse     | 8,599,962           | 1,195         | 7,197           |
| <b>Total</b>  | <b>8,599,962</b>    |               | <b>7,197</b>    |

Source: SCAG Employment Density Study Summary Report, October 31, 2001

## VMT Analysis

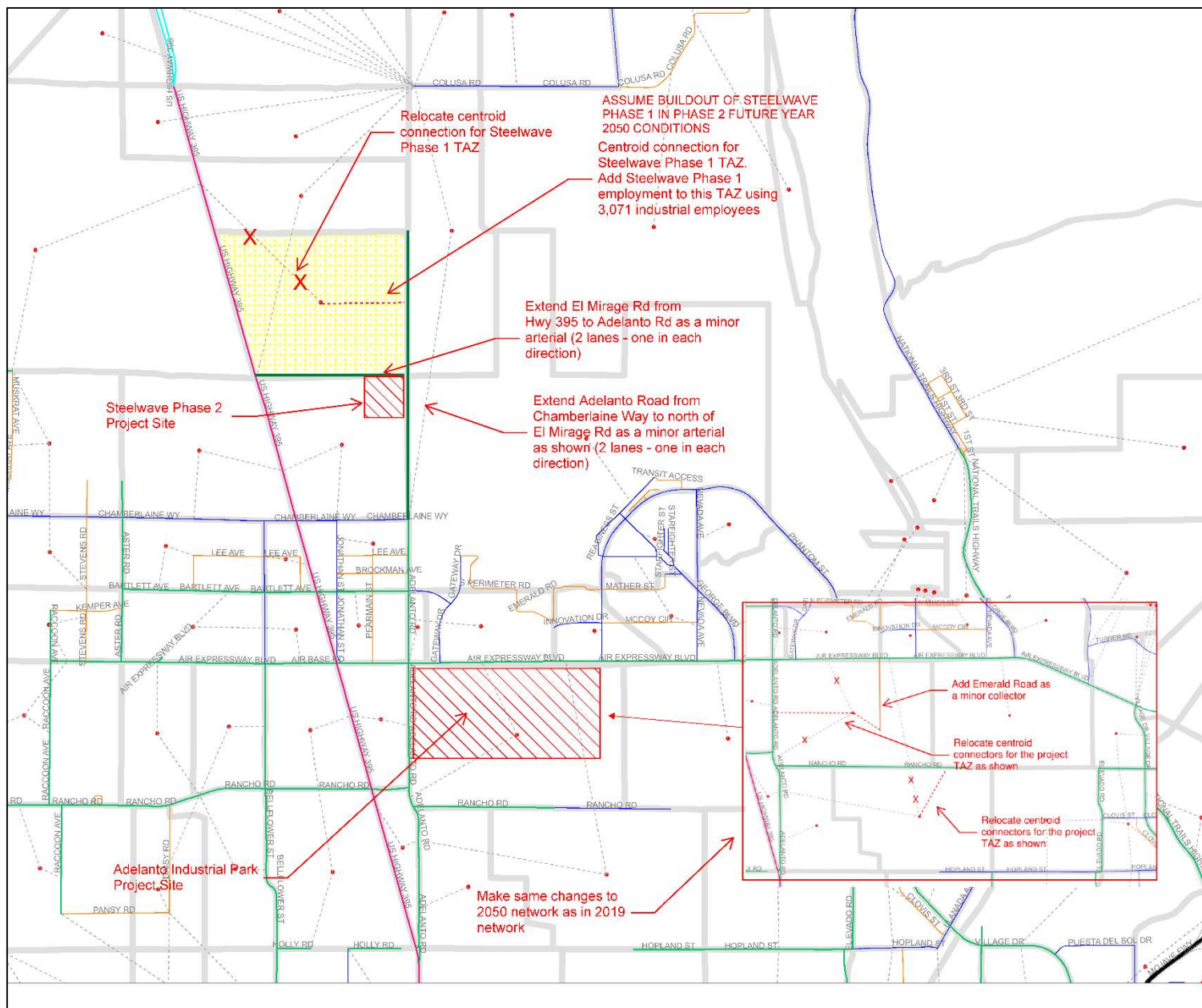
Both baseline (2019) and horizon year (2050) model runs were used to estimate project's VMT impacts. SBTAM socioeconomic databases for the scenarios were updated with the project land use to calculate project VMT. Typically, project VMT is calculated by isolating the project in a new TAZ or multiple TAZs depending on the diversity of project land uses and project size. Since, SBTAM Plus does not allow addition of new TAZs, one TAZ was borrowed for this project. The project TAZ was utilized to calculate project specific VMT per service population.

Minor project specific network modifications were conducted for both base and horizon scenarios. The modifications included known roadway improvements within project vicinity. Modifications conducted to both base and forecast year networks are shown in Figure 1. Full model runs with feedback loops were conducted for all of the project scenarios. It should be noted that the project land use was included in the model as additional land use in the cumulative (2050) scenario and no redistribution of land use growth from other TAZs was conducted.

Based on the Guidelines, either project's Origin/Destination (OD) VMT per service population or Production/Attraction (PA) VMT per service population can be used to evaluate project impact if the project consists of a single land use. As the proposed project consists of a single land use (warehouse), either OD VMT or PA VMT per service population can be used to evaluate the project. OD VMT per service population was used as the evaluation metric for the project.

Origin-destination matrix outputs were used as trips and the trip lengths were derived from the skimming step to estimate OD VMT as recommended in the guidelines. OD matrix outputs include all vehicle trips (all trip purposes) and hence no conversion for auto occupancy was applied. The trip length or distance was obtained using the model outputs from the "Skimming" step. The model skim outputs include peak and off-peak skim matrices by mode, similar to trip outputs from the model. OD VMT was estimated for both peak and off-peak and added together to estimate the total daily VMT for the project.

Figure 1: Project related roadway network modifications (project vicinity)



The project OD VMT per service population for base and cumulative scenarios was compared with San Bernardino County regional average OD VMT per service population. The San Bernardino County OD VMT per service population threshold was obtained from the online SBCTA VMT Map. (<https://sbcta.maps.arcgis.com/apps/instant/sidebar/index.html?appid=774fb0dfc0584db8b2aa1603c7a8f5b4>)

Table 2 below shows the project VMT metrics for both baseline (2019) and cumulative (2050) conditions along with the regional VMT thresholds. The VMT metrics and thresholds for existing conditions (2024) were developed using linear interpolation of both base and horizon year data.

Table 2: Project VMT analysis

| <b>2019</b>                               | <b>Adelanto Industrial Park<br/>(project)</b> | <b>San Bernardino County<br/>(Threshold)*</b> |
|-------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Population                                | -                                             |                                               |
| Employment                                | 7,197                                         |                                               |
| Service Population                        | 7,197                                         |                                               |
| Auto OD VMT                               | 166,930                                       |                                               |
| Truck OD VMT                              | 192,779                                       |                                               |
| Total OD VMT                              | 359,709                                       |                                               |
| <b>Auto OD VMT per service population</b> | <b>23.19</b>                                  | <b>34.98</b>                                  |
| Truck OD VMT per service population       | 26.79                                         | 3.02                                          |
| Total OD VMT per service population       | 49.98                                         | 37.99                                         |
| <b>2024 (interpolated)</b>                | <b>Adelanto Industrial Park<br/>(project)</b> | <b>San Bernardino County<br/>(Threshold)*</b> |
| Population                                |                                               |                                               |
| Employment                                | 7,197                                         |                                               |
| Service Population                        | 7,197                                         |                                               |
| Auto OD VMT                               | 171,059                                       |                                               |
| Truck OD VMT                              | 197,986                                       |                                               |
| Total OD VMT                              | 369,044                                       |                                               |
| <b>Auto OD VMT per service population</b> | <b>23.77</b>                                  | <b>35.63</b>                                  |
| Truck OD VMT per service population       | 27.51                                         | 3.17                                          |
| Total OD VMT per service population       | 51.28                                         | 38.79                                         |
| <b>2050</b>                               | <b>Adelanto Industrial Park<br/>(project)</b> | <b>San Bernardino County<br/>(Threshold)*</b> |
| Population                                | -                                             |                                               |
| Employment                                | 7,197                                         |                                               |
| Service Population                        | 7,197                                         |                                               |
| Auto OD VMT                               | 192,528                                       |                                               |
| Truck OD VMT                              | 225,059                                       |                                               |
| Total OD VMT                              | 417,587                                       |                                               |
| <b>Auto OD VMT per service population</b> | <b>26.75</b>                                  | <b>39.03</b>                                  |
| Truck OD VMT per service population       | 31.27                                         | 3.92                                          |
| Total OD VMT per service population       | 58.02                                         | 42.95                                         |

Threshold values obtained from

<https://sbcta.maps.arcgis.com/apps/instant/sidebar/index.html?appid=774fb0dfc0584db8b2aa1603c7a8f5b4>



Table 3 illustrates the project's effect on VMT. The project's effect on VMT is a comparison of roadway VMT within San Bernardino County for both "With project" and "Without project" conditions.

**Table 3: Roadway VMT within San Bernardino County**

| <b>2019</b>                | <b>With Project</b> | <b>Without Project</b> |
|----------------------------|---------------------|------------------------|
| Roadway VMT                | 68,648,987          | 68,975,804             |
| Service population         | 3,089,217           | 3,082,020              |
| VMT per service population | 22.2                | 22.4                   |
| <b>2024 (interpolated)</b> | <b>With Project</b> | <b>Without Project</b> |
| Roadway VMT                | 72,840,937          | 73,098,722             |
| Service population         | 3,198,761           | 3,191,564              |
| VMT per service population | 22.8                | 22.9                   |
| <b>2050</b>                | <b>With Project</b> | <b>Without Project</b> |
| Roadway VMT                | 94,639,078          | 94,537,893             |
| Service population         | 3,768,388           | 3,761,191              |
| VMT per service population | 25.1                | 25.1                   |

## Conclusion

Based on the VMT analysis as shown in above Tables 2 and 3, the project doesn't constitute a significant impact for both "project generated VMT" and "project's effect on VMT."

